

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,845,175 B2
APPLICATION NO. : 09/830264
DATED : January 18, 2005
INVENTOR(S) : Avi Kopelman et al.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete the title page and substitute therefore the attached title page.

Delete Drawing Sheets 1-11 and substitute therefore the attached Drawing Sheets 1-9.

...SEE LAST
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NUMBERING

should read

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Twenty-first Day of August, 2007

For the Commissioner of Patents and Trademark

(12) **United States Patent**
Kopelman et al.

(10) Patent No.: **US 6,845,175 B2**
(45) Date of Patent: **Jan. 18, 2005**

(54) **DENTAL IMAGE PROCESSING METHOD AND SYSTEM**

(75) Inventors: Avi Kopelman, Tel Aviv (IL); Eldad Traub, Reut (IL)

(73) Assignee: Cadent Ltd., Or Yehuda (IL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 479 days.

(21) Appl. No.: 09/830,264

(22) Filed: Apr. 23, 2001

(65) Prior Publication Data

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Related U.S. Application Data

(63) Continuation of application No. PCT/IL99/00577, filed on Nov. 1, 1999.

(30) Foreign Application Priority Data

Nov. 1, 1998 (IL) 126838

(51) Int. Cl.⁷ G06K 9/00

(52) U.S. Cl. 382/154; 382/294; 128/922

(58) Field of Search 382/128, 131,
382/154, 285, 294; 600/587, 589, 590;
128/922; 433/24, 29, 68, 69, 215

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An English language title and abstract is provided for DE 4141311.

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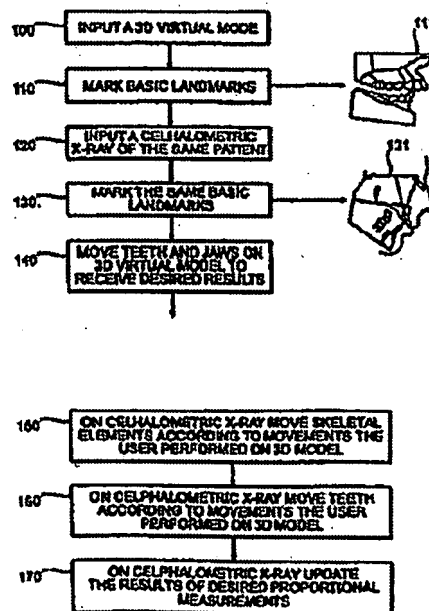
Primary Examiner—Todd E. Manahan

(74) Attorney, Agent, or Firm—Nath & Associates PLLC; Gary M. Nath; Lee C. Heiman

(57) **ABSTRACT**

An image processing method for use in dentistry or orthodontic is provided. Two images of teeth, one being a two-dimensional image and one a three-dimensional image are combined in a manner to allow the use of information obtained from one to the other. In order to combine the two images a set of basic landmarks is defined in one, identified in the other and then the two images are registered.

23 Claims, 9 Drawing Sheets



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FIG. 1A

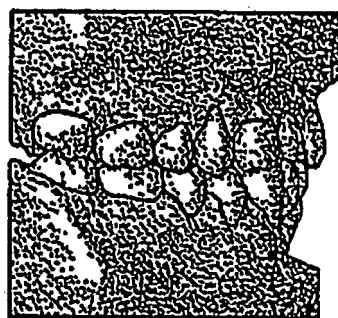


FIG. 1B
PRIOR ART

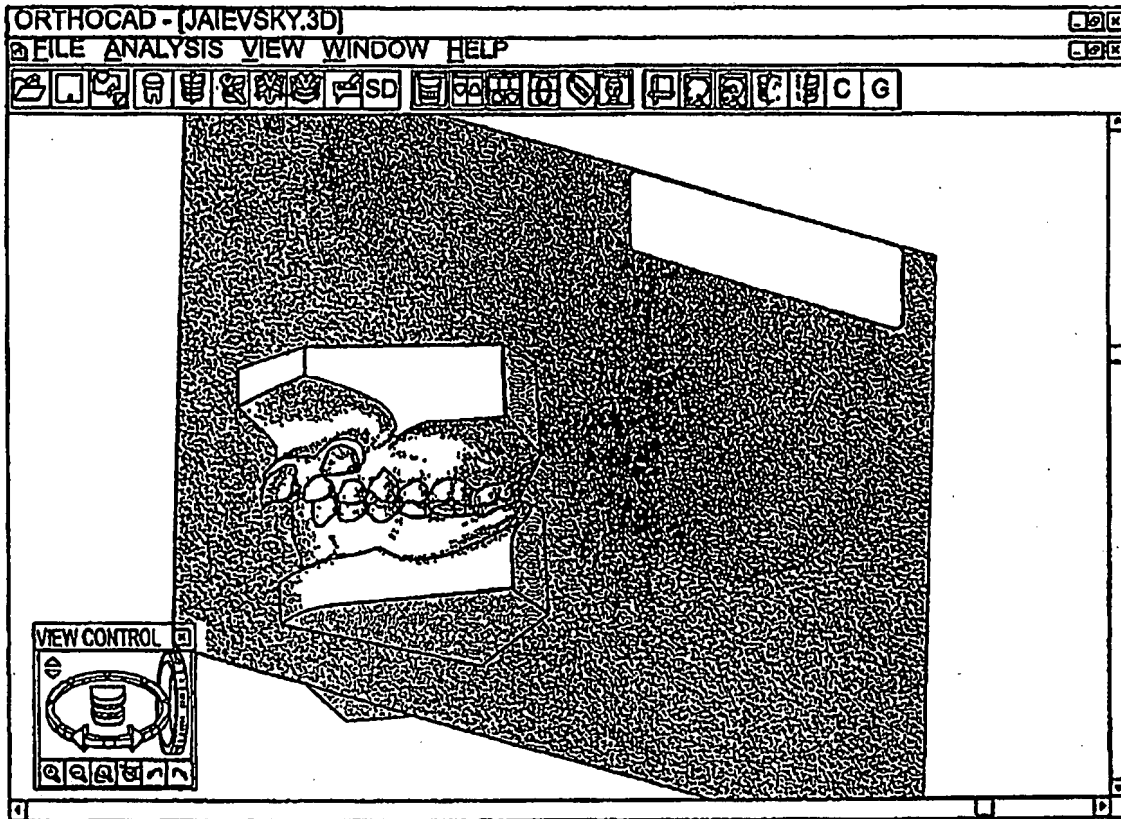


FIG. 2

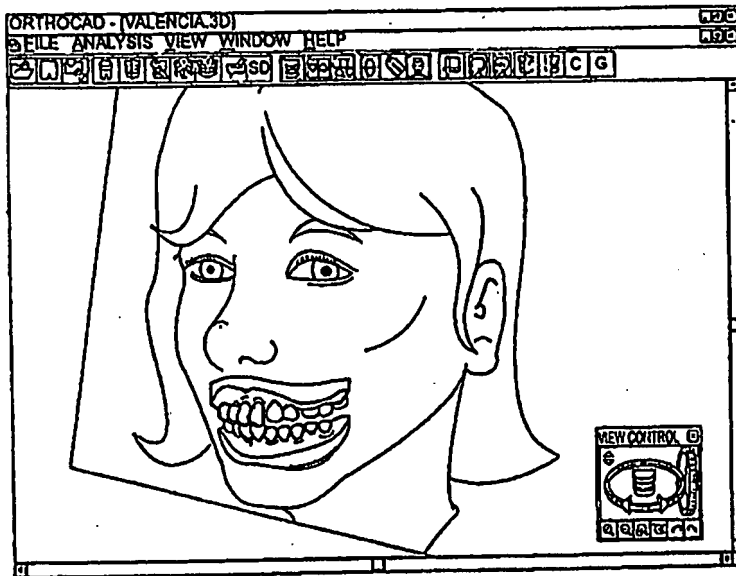


FIG. 3A

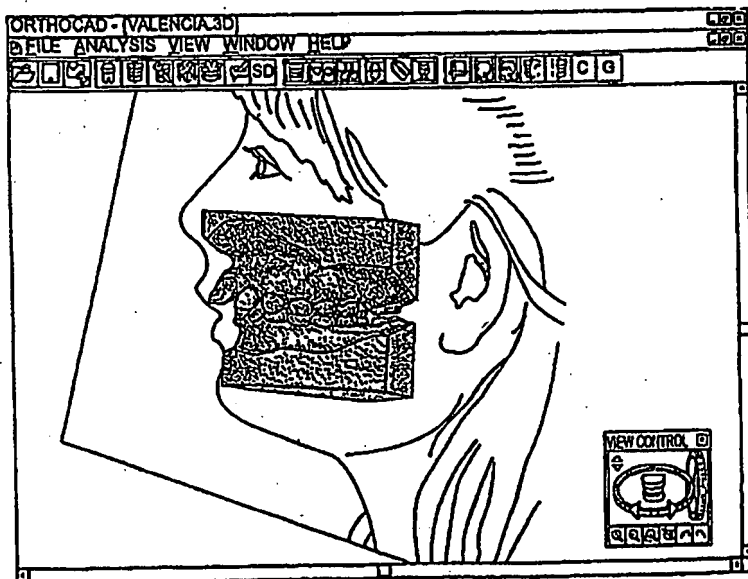


FIG. 3B

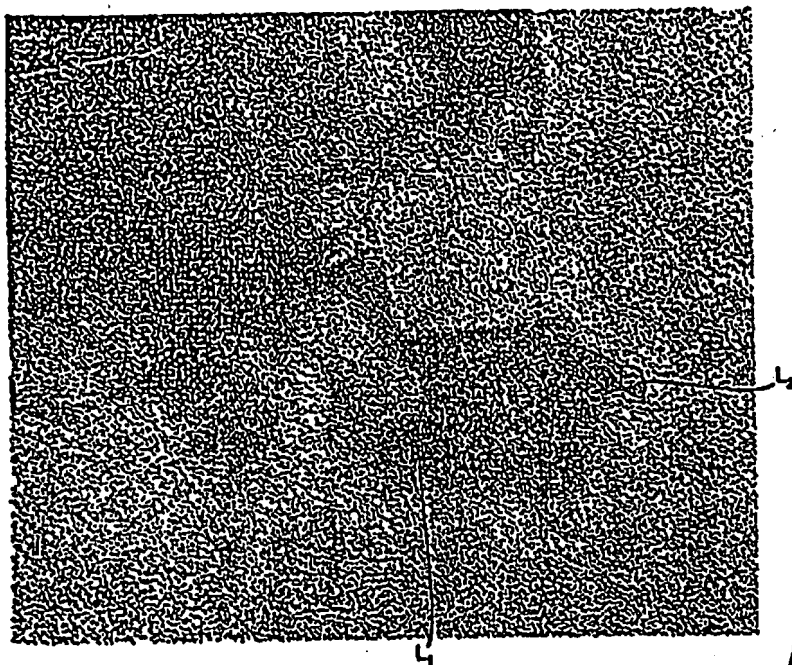


FIG. 4A

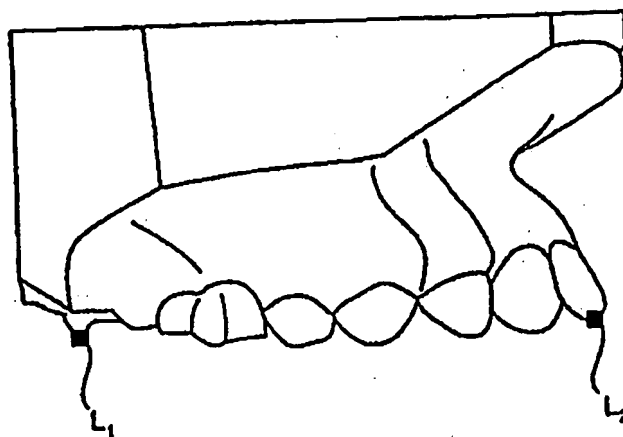


FIG. 4B

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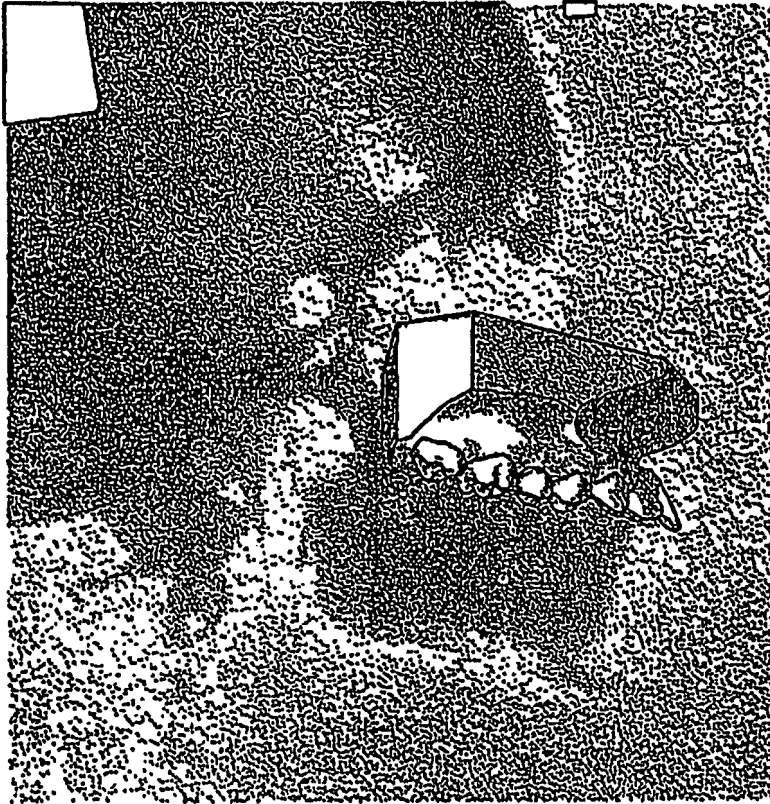


FIG. 5

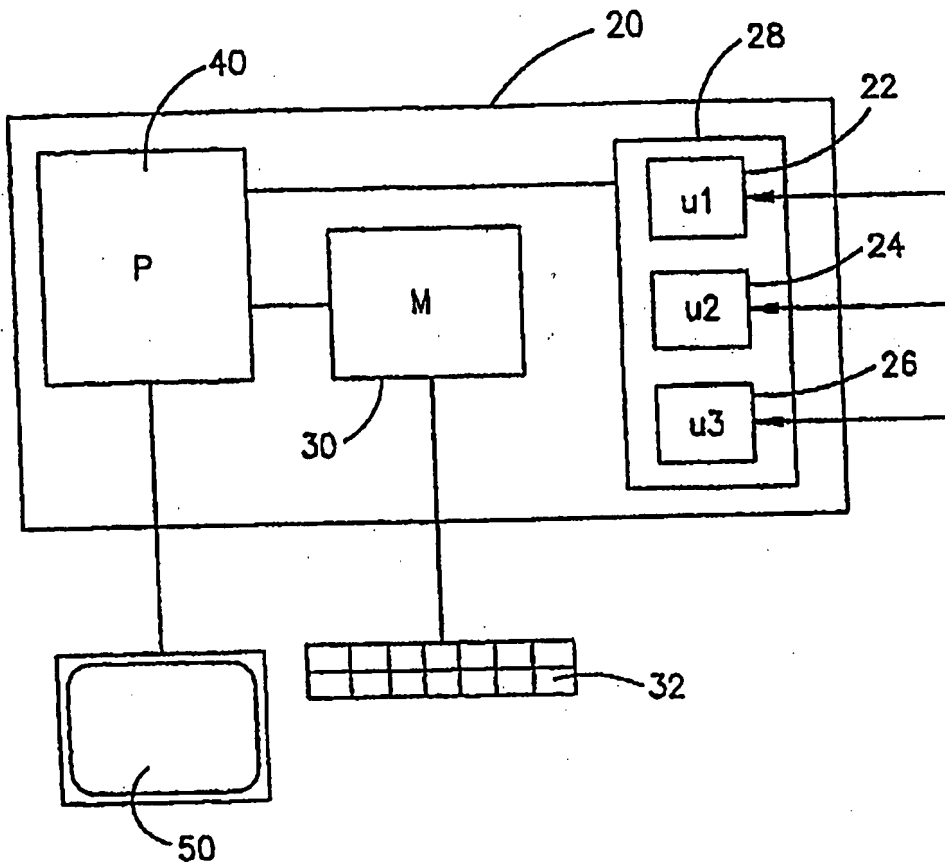
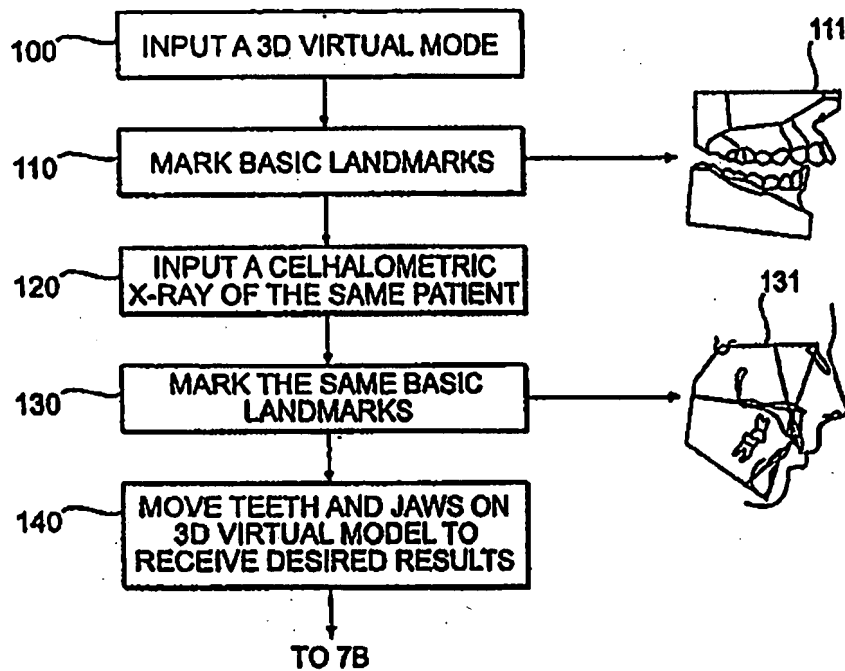
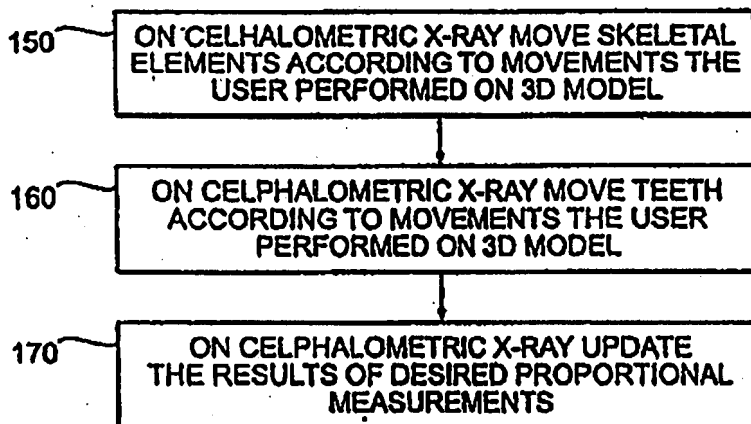
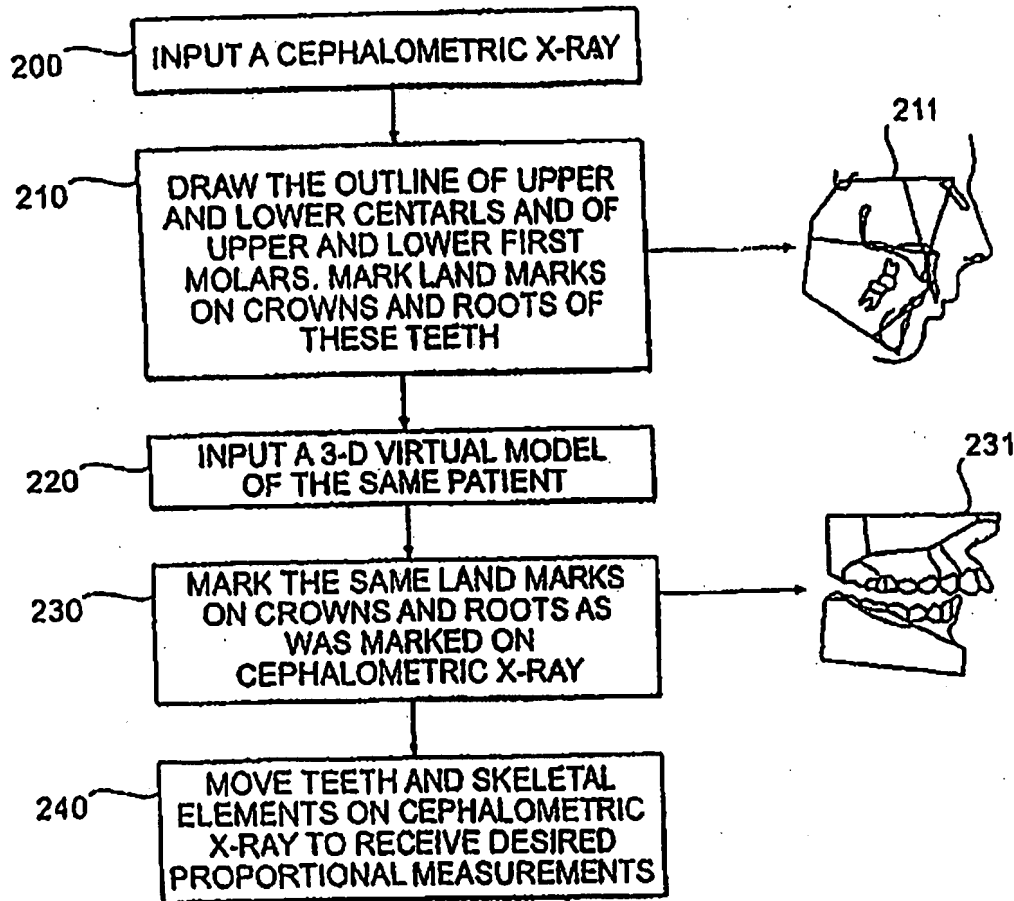


FIG.6

**FIG. 7A****FIG. 7B**

**FIG. 8A**

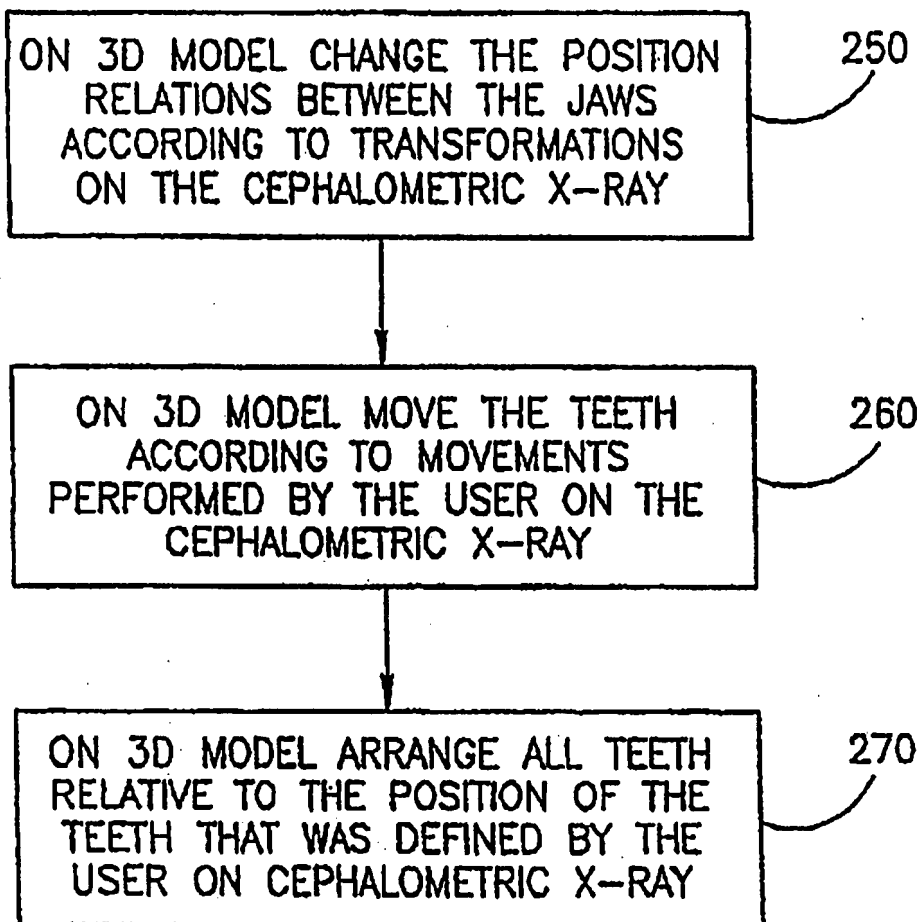


FIG. 8B